

VINITSKAYA, R.S.; ROMANOVA, L.S.

Regulation of respiration in disorders of the hemodynamics of the pulmonary circulation. Pat. fiziol. i eksp. terap. 9 no.5:45-49 S-0 '65. (MIRA 19:1)

1. Laboratoriya normal'noy i patologicheskoy fiziologii (zav. - prof. L.L. Shik) Instituta khirurgii imeni A.V. Vishnevskogo (direktor - deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy) AMN SSSR, Moskva. Submitted May 20, 1964.

DARBINYAN, T.M.; VINITSKAYA, R.S.

Adequate ventilation and study of CO<sub>2</sub> of the expelled air during operations on a "dry" heart under hypothermia. Trudy TSIU  
59:147-155 '63. (MIRA 17:9)

1. Laboratoriya anesteziologii (zav. T.M. Darbinyan) i laboratoriya fiziologii (zav. prof. L.L. Shik) Instituta khirurgii imeni A.V. Vishnevskogo (direktor deystvitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy) AMN SSSR.

VINITSKAYA, R. S. (Moskva)

Significance of dye dilution curves for the diagnosis and  
functional evaluation of heart defects. Eksper. khir. i anest.  
no.2:19-26 '62. (MIRA 15:6)

(HEART--DISEASES) (DYES AND DYEING)

KHARNAS, S.Sh.; VINITSKAYA, R.S.; VOLYNSKIY, Yu.D.

Mechanism of acute dilatation of the heart under conditions of  
artificial circulation. *Eksp.khir.i anest.* 6 no.1:19-21 '61.

(MIRA 14:10)

(PERFUSION PUMP (HEART)) (HEART--HYPERTROPHY AND DILATATION)

SHIK, L.L.; VINITSKAYA, R.S.; VOLYNSKIY, Yu.D.; KHARINAS, S.Sh.

Significance of changes in oxygen consumption in artificial blood circulation under experimental conditions. Vest. AMN SSSR 16 no.8: 24-27 '61. (MIRA 14:12)

1. Institut khirurgii imeni Vishnevskogo AMN SSSR.  
(BLOOD CIRCULATION, ARTIFICIAL)

VINITSKAYA, R.S.; VOLINSKIY, Yu.D.

Dependence of oxygen requirements of the tissues on the minute volume of the blood flow and arterial blood pressure under conditions of artificial blood circulation. Eksper. khir. 5 no.6:47-52 N-D '60. (MIRA 14:2)

(OXYGEN IN THE BODY) (BLOOD PRESSURE)  
(BLOOD CIRCULATION, ARTIFICIAL)

VINITSKAYA, R.S.

Changes in gas-exchange during exercise following pulmonary surgery. Biul.eksp.biol. i med. 48 no.7:22-26 J1 '59.  
(MIRA 12:10)

1. Iz Instituta khirurgii imeni A.V.Vishnevskogo (dir. - deystvitel'nyy chlen AMN SSSR A.A.Vishnevskiy, nauchnyy rukovoditel' - deystvitel'nyy chlen AMN SSSR P.A.Anokhin) AMN SSSR, Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR P.K.Anokhinym.  
(PNEUMONECTOMY)  
(EXERTION - effect)

SELEZNEVA, N.; VINITSKAYA, S.; LESHCHENKO, A.

We are for a unified accounting office. Fin. SSSR 38 no.1:74 Ja '64.  
(MIRA 17:2)

1. Rabotniki Tuapsinskogo gorodskogo finansovogo otdela Krasnodarskogo  
kraya.



VINITSKAYA, V.S.

Changes in the oxygen saturation of blood in various intrathoracic operations (on the heart, lung and large vessels). Sov.med. 23 no.1:52-57 Ja '59. (MIRA 12:2)

1. Iz Instituta khirurgii imeni K.V. Vishnevskogo AMN SSSR (dir - deystvitel'nyy chlen AMN SSSR prof. A.A. Vichnevskiy, nauchnyy rukovoditel' - deystvitel'nyy chlen AMN SSSR P.K. Anokhin).

(CARDIOVASCULAR SYSTEM, surg.

eff. on arterial blood oxygen saturation (Rus))

(OXYGEN, in blood

arterial saturation, eff. of cardiovasc. surg. (Rus))

840<sup>\*</sup> Calculation of External Induction of Thin Rectangular Steel Bus-Bars. (In Russian.) A. M. Vinitskii and G. A. Gel'bykh. Elektrichestvo (Electricity), Aug. 1950, p. 37-39. Proposes formula for the above. Curves show dependence of inductive resistance on distance between bars for horizontally and vertically arranged bars. Theoretical values correspond closely to experimental data.

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ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1950S SYMBOLIC SYMBOL MAP ONLY ONE

RELATIONS

1950S BOWLING RELATION ONE ONLY ALL

VINITSKIY, A. G. Cand Tech Sci -- (diss) "The Effect of ~~the~~  
Alloy Structure on Resistance <sup>during grinding</sup> ~~to wear~~." Mos, 1957. 11 pp 20 cm.  
(Min of Higher Education USSR, Mos Aviation Engineering Inst),  
120 copies (KL, 26-57, 107)

- 49 -

VINITSKIY, A.G.

PHASE I BOOK EXPLOITATION

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Moscow. Aviatsionnyy tekhnologicheskii institut

Metallovedeniye i tekhnologiya termicheskoy obrabotki (Physical Metallurgy and Technology of Heat Treatment) Moscow, Oborongiz, 1958. 179 p.  
(Series: Its: Trudy, vyp. 31) 3,200 copies printed.

Ed. (title page): Vishnyakov, D.Ya., Doctor of Technical Sciences, Professor;  
Ed. (inside book): Kuniyavskaya, T.M.; Tech. Ed.: Rozhin, V.P.;

Managing Ed.: Zaymovskaya, A.S., Engineer.

PURPOSE: This book is intended for production engineers, physical metallurgists, heat-treatment specialists, and other scientific and technical personnel, as well as for advanced students.

COVERAGE: The book is devoted to the study of properties of heat-resistant alloys, the effect of steel structure on wear resistance, phase transformations and recrystallization in alloys, and also the effect of the conditions under which alloys are heat-treated on the structure and properties of the alloys. For references and additional coverage, see Table of Contents.

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Physical Metallurgy and Technology of Heat Treatment

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TABLE OF CONTENTS:

- \* Vishnyakov, D.Ya., Professor, Doctor of Technical Sciences; Maslennikov, B.F.,  
Engineer. Study of the Recrystallization Process in EI435 Alloy 5

The material investigated was a nickel-chrome-titanium alloy used in the manufacture of jet-engine exhaust pipes. Its chemical composition (in percent) is given as follows: Cr = 20.40; Ti = 0.21; C = 0.05; Mn = 0.44; Si = 0.40; Fe = 0.74; Cu = 0.05; Al = 0.04; S = 0.006; P = 0.004; Ni - remainder. The authors' conclusions, in part, are:  
1. It was established that the type of deformation (in tension or in rolling) does not qualitatively change the recrystallization pattern of the alloy. 2. At annealing temperatures of 1000-1050°C, two maxima of grain growth were observed: 0.2-5.0% in the case of small deformations, and 25-60% in large deformations. 3. It was noted that the critical degree of strain shifts in the direction of smaller strains with an increase in annealing temperatures. Two temperature intervals were observed where this rule operates: 900-1050°C and 1000-1200°C. 4. The minimum temperature (threshold) of recrystallization for EI435 is 700°C. There are 5 references, of which 4 are Soviet and 1 is German.

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Physical Metallurgy and Technology of Heat Treatment

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Kirpichnikov, K.S., Candidate of Technical Sciences, Docent. Rapid Annealing of Semifinished Articles Cold-formed from D16 and AV (AK5) Aluminum-Alloy. Sheet

17

The author describes the results of applying new regimes of rapid annealing for heat-treated aluminum alloys. In addition, he outlines the principles of designing equipment for rapid annealing.

Vishnyakov, D.Ya.; Figel'man, M.A., Engineer; Trifonova, O.L., Engineer. Some Properties of EI659 Medium-Alloy Steel

34

The author studies the effect of the degree of plastic deformation and the rate of cooling on the properties of this steel, tested at various temperatures. This type of steel contains small to moderate amounts of chromium, nickel, tungsten, and vanadium. There are 4 references, all Soviet.

Vishnyakov, D.Ya.; Vinit'skiy, A.G., Candidate of Technical Sciences. A Study of the Wear Resistance of Carbon Steels

43

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Physical Metallurgy and Technology of Heat Treatment

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Author's conclusions: 1. Carbon steels with a laminated pearlitic structure are more wear-resistant than steels with a granular pearlitic structure. 2. An increase in the amount of laminar pearlite results in a drop in the rate of wear, especially in hypoeutectoid steels. There are 4 references, all Soviet.

Vishnyakov, D.Ya.; Vinitkiy, A.G. Effect of Structure on the Wear Resistance of Iron-Chromium-Carbon Alloys

50

Author's conclusions (in part): 1. An increase in the quantity of special carbides in annealed and hardened chrome steels increases their wear resistance. 2. A given quantity of cubic crystals of chromium carbide imparts greater wear resistance than the same quantity of trigonal carbides, other conditions being equal. 3. The relationship between wear resistance, hardness, and certain other mechanical properties of annealed chrome steels can be observed only within the limits of identical structures. There are 3 references, all Soviet.

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Physical Metallurgy and Technology of Heat Treatment

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Livanov, V.A., Candidate of Technical Sciences; Vozdvizhenskiy, V.M.,  
Candidate of Technical Sciences. Recrystallization of Aluminum-Manganese  
Alloys

65

The authors study the recrystallization process of aluminum-manganese alloys as affected by the amount of manganese in solid solution, the quantity and distribution of dispersed phases, and nonuniformity of chemical composition and structure. There are 18 references, of which 8 are Soviet, 8 English, and 2 German.

Livanov, V.A.; Vozdvizhenskiy, V.M. Effect of Addition Elements on the Solubility of Manganese in Aluminum

84

The authors study the effect of small amounts of iron, silicon, and titanium on the solubility of manganese in aluminum. There are 15 references, of which 3 are Soviet, 8 English, and 4 German.

Vishnyakov, D.Ya.; Sovalova, A.A., Candidate of Technical Sciences, Docent;  
Smirnova, K.A. Mechanical Properties of Steels at Low Temperatures

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Physical Metallurgy and Technology of Heat Treatment 841

Results are given of an investigation of the effect of the composition and heat treatment of certain alloy structural steels on the cold brittleness of the steels at sub-zero temperatures. There are 3 references, all Soviet.

Sovalova, A.A.; Kornilova, Z.I., Engineer. Scale Resistance of Certain Nickel-Base Alloys

107

The authors compare the scale resistance of three nickel-base alloys at various temperatures with that of an iron-base aircraft-construction alloy.

Neustruyev, A.A., Candidate of Technical Sciences. Heat Exchange in Continuous Convection Furnaces

113

Neustruyev compares uniflow and counterflow furnaces of the above type and concludes that preference should be given to the counter-flow variety. There are 6 references, all Soviet.

Neustruyev, A.A., Candidate of Technical Sciences. Special Features of Heating Elongated Items of Aluminum Alloys in Convection Furnaces

129

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Physical Metallurgy and Technology of Heat Treatment

841

The author discusses the special problems connected with the heat treatment, especially hardening, of elongated aluminum-alloy semi-finished products (shapes, pipes, sheet, etc.), particularly such problems as maintaining constant temperature and the achievement of rapid and uniform heating. There are 5 references, of which 4 are Soviet and 1 is German.

Livanov, V.A.; Yelagin, V.I., Candidate of Technical Sciences. Investigation of AMg6 Heat-resistant Alloy with Additions of Iron and Nickel

138

The author's investigation shows that small additions of iron (0.08-0.92%) and nickel (0.17-0.72%) do not improve the mechanical properties of AMg6 alloy (Al + 6% Mg) at elevated temperatures. There are 7 references, of which 5 are Soviet, 1 is English, and 1 German.

Livanov, V.A.; Yelagin, V.I. The Extrusion Effect at Elevated Temperatures

143

An investigation of the "extrusion effect" (increased strength as a result of the extrusion process) in aluminum-magnesium alloys with additions of chromium and manganese (together and separately) shows

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that these alloys retain their increased strength even after cold drawing. It is further shown that the extrusion effect is preserved at elevated temperatures (300° C) and is observed both in the short-time strength test and in the long-time hardness test. There are 10 references, of which 8 are Soviet and 2 German.

Petrov, D.A., Professor, Doctor of Technical Sciences; Bukhanova, A.A., Candidate of Technical Sciences. Change in Shape and Recrystallization of Crystalline Substances During Solution and Growth in the Solid Phase

161

The authors investigate the changes in crystalline structure which occur during the annealing of various alloys.

Kolachev, B.A., Candidate of Technical Sciences. The Effect of Chromium, Manganese, and Iron on the Natural Aging of Aluminum-Copper Alloys

172

Results are given of an investigation of the effect of chromium, manganese, and iron on the aging of aluminum alloys containing 4 percent of copper. There are 9 references, of which 4 are Soviet, 3 German, and 2 English.

AVAILABLE: Library of Congress

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GO/mas  
11-28-58

VISHNYAKOV, D.Ya., doktor tekhn.nauk, prof.; VINITSKIY, A.G., kand.tekhn.nauk

Investigating wear resistance of carbon steels. Trudy MATI no.31:  
43-49 '58. (MIRA 11:7)

(Steel alloys--Testing) (Mechanical wear)

YEFREMOV, F.Ye., inzh.; VINITSKIY, A.I., inzh.; IVANOV, G.S., inzh.;  
KHADZHINOV, G.G., inzh.

Use of wet ash traps in a boiler operating on industrial fuel.  
Elek. sta. 33 no.4:24-26 Ap '62. (MIRA 15:7)  
(Boilers) (Fuel)

**AUTHORS:** Boos, E. G. , Vinit'skiy, A. Kh. , <sup>SOV/ 56-34-3-13/55</sup> Takibayev, Zh. S. ,  
Chasnikov, I. Ya.

**TITLE:** The Investigation of a Shower Produced by a Singly Charged Particle of High Energy (Issledovaniye livnya, vyzvannogo odnozaryadnoy chastitsey vysokoy energii)

**PERIODICLA:** Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958, Vol. 34, Nr 3, pp. 622 - 631 (USSR)

**ABSTRACT:** The case described here of the type (2 + 16 p) was observed in a 600  $\mu$  thick emulsion Ilford G-5, which in 1955 was exposed in Italy at an altitude of about 30 km. The energy of the primary particle which was estimated by the usual kinematic method was  $(5^{+10}_{-3}) \cdot 10^{12}$  eV. The shower particles moved within an angle of  $1.7 \cdot 10^{-1}$  rad. The central traces pass in a plate distances up to 5 cm. For this very reason the energy of 15 shower particles could be determined by immediate measurement of the multiple Coulomb scattering. The first

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## The Investigation of a Shower Produced by a Singly Charged Particle of High Energy

paragraph discusses the measurement of the momenta of the secondary particles. The scattering was measured individually for all shower particles. The value  $D$  of the scattering, which was measured immediately in the experiment, is composed of the pure Coulomb scattering  $D_k$  and of the scattering  $n$ , which is caused by all the other factors. The quantity  $n$  can be measured by measurement of the scattering of a high energy particle at three cells along its trace. The scattering of the shower particles was measured at cells from 500 to 4000  $\mu$ . The next paragraph deals with the angular distribution and the energy distribution of the shower particles. The angular distribution of the shower particles is illustrated by a diagram. This angular distribution agrees best with distribution according to the Heisenberg theory. . . To compare the energy distribution of the shower particles with the theory by Landau a histogram was constructed in the laboratory coordinate system. The here found energy distribution does not correspond with the Landau theory, for a predominance of the low energy shower particles compared with the expected theoretical values is observed. The measured energy of the particles is smaller by one order of magnitude than the the corresponding theoretical values. A diagram illustrates the energy distribution of

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15 shower particles in the center of mass system. This curve corresponds to the energy spectrum of the Heisenberg theory. The coefficient of the non-elasticity in the center of mass system amounts to  $0.10^{+0.06}_{-0.02}$ . The shower investigated here obviously has been generated by a nucleon-nucleon collision. The third paragraph discusses the soft component which accompanies the shower. To study this soft component the emulsion was evaluated inside a cone with the half aperture angle of 0.15 rad relatively to the shower axis. In this volume 10 electron-positron pairs and 1 trident were found. The corresponding data are compiled in a table. In case of knowledge of the number of the primary electron-positron pairs, which accompany a given shower, the expected number of neutral pions can be computed by application of the law of radioactive decay; a corresponding formula is written down here. For the mean energy of the neutral pions the value  $15 \pm 3$  BeV is found. There are 6 figures, 4 tables, and 14 references, 4 of which are Soviet.

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VINITSKIY, A. Kh.

AN INVESTIGATION OF THE ENERGY SPECTRUM OF PARTICLES  
GENERATED IN HIGH-ENERGY NUCLEAR INTERACTIONS

A. Kh. Vinitskiy, I. G. Golyak, Zn. S. Takibayev,  
I. Ya. Chasnikov

A study was made of the energy spectrum of particles generated in high-energy nuclear interactions ( $\sim 10^{12}$  ev) in photographic emulsions. The energy of the charged shower particles was determined by measuring multiple Coulomb scattering. This method of determining the energy is a complex experimental problem, the difficulty being to distinguish spurious scattering from Coulomb scattering. We utilized the procedure of evaluating and excluding spurious scattering by means of multiple cells and the higher differences of coordinates. The correctness of this procedure was verified on the tracks of protons of energy close to 9 Bev in nuclear emulsions irradiated on the proton synchrotron of the Joint Institute of Nuclear Research. Besides use was made for the very same purpose of certain published data on measurements of multiple scattering of particles accelerated by the bevatron.

Report presented at the International Cosmic Ray Conference, Moscow, 6-11 July 1959.

3/058/61/000/010/010/100  
A001/A101

3.24/0

AUTHORS: Vinitzkiy, A.Kh., Golyak, I.G., Takibayev, Zh.S., Chasnikov, I.Ya.

TITLE: Investigation of energy spectrum of particles produced in high-energy nuclear interactions

PERIODICAL: Referativnyy zhurnal.Fizika, no.10, 1961, 95, abstract 10B491 ("Tr. Mezhdunar. konferentsii po kosmich lucham, 1959, v. 1", Moscow, AN SSSR, 1960, 61 - 70)

TEXT: The authors investigated showers in which the energy of produced particles was determined by measuring multiple Coulomb scattering or, in rare cases, by measuring relative scattering of closely flowing particles. In the case of two showers ( $2 + 16 p$  and  $2 + 14 n$ ), the spectra of  $\gamma$ -quanta, being decay products of  $\pi^0$ -mesons, were obtained; the energies of  $\gamma$ -quanta were determined on the basis of analysis of electron-positron pairs produced by them. The experimental data obtained in this way are compared with spectra of  $\gamma$ -quanta following from various versions of the theory of multiple meson production. VB

L. Dorman

[Abstracter's note: Complete translation]

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AUTHORS: Takibayev, Zh. S., Vinitskiy, A. Kh., Zaytsev, K. G.

TITLE: Analysis of high-energy nuclear interaction

SOURCE: Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki.  
Trudy. v. 3, 1960. Vzaimodeystviye vysokoenergichnykh chastits  
s atomnymi yadrami, 100-105

TEXT: The present paper describes a cosmic-ray shower at an altitude of 30 to 33 km found during a 90 hours' exposure in a stack of 40 films of type P (R) and consisting of 61 minimally ionized tracks. It passed through 36 emulsion films and an aluminum sheet 0.5 mm thick. The charged shower particles produced at primary interaction form nine secondary interactions. The distance R between the stack and the point of intersection of all tracks with the original track was determined from the deviation of all secondary tracks relative to the primary track, measured in the first plate. Most tracks correspond to a distance of 20 to 30 mm.  $R = 25 \pm 5$  mm, if all originate from charged particles produced in the primary collision. Using the formula

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$$-\ln \gamma_c = (1/n_s) \sum_{i=1}^{n_s} \ln \tan \theta_i \quad (1),$$

the energy  $\gamma_c$  of the incident nucleon in the center of mass system was determined (in terms of the rest mass) from the angular distribution of shower particles produced at secondary interaction.  $\theta_i$  is the angle enclosed by the trajectory of the  $i$ -th particle and the shower axis in the laboratory system. The primary particle energy determined by different methods and under different conditions is: 1)  $\gamma_c = 324$  and  $E = 1.97 \cdot 10^5$  and  $\gamma_c = 202$  and  $E = 0.76 \cdot 10^5$  Bev, respectively, when calculated according to (1) and if 26 and 38 particles are emitted in the first collision. According to (1)  $\gamma_c = 440$ ;  $E = 3.7 \cdot 10^5$  Bev and  $\gamma_c = 296$ ;  $E = 1.7 \cdot 10^5$  Bev, respectively when using 61 and 73 tracks passing through the first plate. The values of  $\gamma_c$  and of the inelasticity coefficients  $K$  were calculated for 26 particles from the angular distribu-

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tion by a method developed by the authors. At constant transverse momentum  $P_{\perp}$  they were found to be: at  $P = 1 \mu c$ ;  $2 \mu c$  and  $3 \mu c$ ,  $\gamma_c = 234$ , 296 and 316, respectively, and  $K = 0.019$ ;  $0.034$  and  $0.043$ , respectively, and for 38 particles at  $P_{\perp} = 1 \mu c$ ;  $2 \mu c$  and  $3 \mu c$   $\gamma_c = 186$ ; 239 and 254, respectively, and  $K = 0.054$ ;  $0.085$  and  $0.119$ , respectively. The values  $\gamma_c \sim 10^{14}$  ev and  $K = 0.10-0.02$  found by the method of H. Huzita (Nuovo Cimento, 4, 841, 1957) agree with results obtained by B. Edvards et al., (Phil. Mag. 2, 237, 1958). The angular distribution found in the first plate by the method of coordinates shows a better coincidence with the anisotropic Heisenberg distribution than with the monoenergetic isotropic distribution. The angular distribution of particles produced at secondary interaction is isotropic at average energies of  $\sim 5$  Bev, already less isotropic at  $\sim 40$  Bev and agrees better at some hundred Bev with anisotropic distribution. There are 6 figures, 1 table, and 6 references: 2 Soviet and 4 non-Soviet. The two references to English-language publications read as follows: Gastagnoli, G. Cortini, Franzinetti, A. Manfredini and D. Moreno, Nuovo Cimento, 10, 1539, 1953; B. Edvards.

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Analysis of high-energy nuclear...

S/707/60/003/000/006/013  
B125/B102

J. Losty, D. H. Perkins, K. Pinkau and J. Reynolds, Philosophical Magazine,  
3, 237, 1958.

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VINITSKIY, A.Kh.; GOLYAK, I.G.; PAVLOVA, N.P.; RUS'KIN, V.I.; TAKIBAYEV, Zh.S.

Inelastic  $\pi$ -N-interactions at 7.5 Bev. Trudy Inst. 1ad. fiz.  
AN Kazakh. SSR 6:144-159 '63. (MIRA 16:10)

S/020/63/148/004/011/025  
B141/B102

AUTHORS: Vinit'skiy, A. Kh., Golyak, I. G., Pus'kin, V. I.,  
Takibayev, Zh. S., Academician AS KazSSR

TITLE: Investigation into particle production in inelastic  
pion-nucleon interactions

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 4, 1963,  
796-798

TEXT: The production of pions, strange particles, and new rapidly  
decaying systems is studied in inelastic interactions between 7.5-Bev  
pions and the nucleons of a nuclear emulsion. Out of 2100 interactions  
recorded, 200 were classified as inelastic pion-nucleon interactions; and  
among the 323 particles identified there were 259 pions, 19 K-mesons, and  
45 protons. The angular distributions of the secondary protons and pions  
was studied, as well as their momentum distributions, which have 2  
maxima. The protons of the ( $\pi p$ ) collisions have less energy than those  
of the ( $\pi n$ ) collisions. The c.m.s. K-meson energy fluctuates between  
500 and 700 Mev. In 3 cases 2 K mesons were produced simultaneously in  
inelastic ( $\pi N$ ) interactions. Their mass was approximately 1 Bev

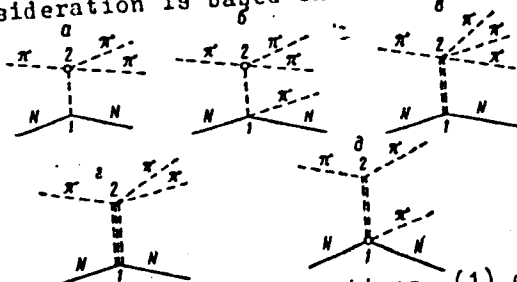
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Investigation into particle ...

(lab-system). A resonance of the KK system is inferred from this fact. The theoretical consideration is based on the 5 Feynman graphs of the figure.



Graphs a and b are considered on 2 assumptions, (1)  $\sigma_{\pi\pi}(\omega^2) = \text{const.}$

(2)  $\sigma_{\pi\pi}$  is obtained from the Breit-Wigner resonance formula for  $T = I = 1$ . The graphs c, d, e describe  $(\pi N)$  interactions with exchange of quasiparticles. The graphs b, c, and d supply the main contribution in the high-energy peak in the proton momentum distribution at 1.4-1.6 Bev; this maximum can be explained, the other one, at 0.4-0.6 Bev cannot be explained by a-b. There are two further possible explanations: (1) that the maximum is due

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to nonpolar processes that are connected with a high momentum transfer to protons; (2) it could be explained by a certain type of pole graph. There are 4 figures and 1 table.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk KazSSR (Institute of Nuclear Physics of the Academy of Sciences KazSSR)

SUBMITTED: July 13, 1962

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VANSTAKIN, A.Ph.

Empirical laws governing the distribution of masses of excited systems. Vest. AN Kazakh. SSR. 19 no.5:88-90 My '63.

(MIRA 17:7)

L 23758-66 EWT(m)/T

ACC NR: AP6014809

SOURCE CODE: UR/0367/65/001/001/0148/0151

AUTHOR: Boos, E. G.; Vinitskiy, A. Kh.--Vinitsky, A.; Takibayev, Zh. S.--Takibaev, J.

ORG: Institute of Nuclear Physics, AN KazSSR (Institut yadernoy fiziki AN KazSSR) 16

TITLE: Investigation of dependence of lateral momentum of pi-mesons on escape angle 18

SOURCE: Yadernaya fizika, v. 1, no. 1, 1965, 148-151 19

TOPIC TAGS: pi meson, particle interaction

ABSTRACT: The distribution of the lateral momentum of pi-mesons as a function of their escape angle is investigated. Use is made of 1536 pi-mesons produced in pi N- interactions by an energy of 7.5 BEV. It is shown that the existing dependence of P<sub>l</sub> on the escape angle can be explained by the influence of the energy-momentum conservation law. The authors study the conditions under which the assumption P<sub>l</sub> = constant can be used to find the kinematic properties of the secondary particles. The authors thank O. V. Gunenkov for his assistance with the calculations. Orig. art. has: 2 figures and 4 formulas. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 20 / SUBM DATE: 01Jul64 / ORIG REF: 007 / OTH REF: 002

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BOOS, F.G.; VINITSKIY, A.Kh.; TAKIBAYEV, Zh.S.

Dependence of the transverse momentum of  $\eta$ -mesons on the angle of emission.  
IAd. fiz. 1 no.1:148-151 Ja '65. (MIRA 18:7)

1. Institut yadernoy fiziki AN KazSSR.

BOOS, E.G.; ROTVIN, V.A.; VANITSKIY, A.Kh.; KARIBAYEV, Zh.S.; CHADNIKOV,  
I.Ya.

Inelastic interactions between protons,  $\pi$ -mesons, and nucleons  
in photographic emulsions in the 7 - 20 Bev. energy range.  
Izv. AN SSSR. Ser. fiz. 28 no.11:1770-1772 N '64.

(MIRA 17:12)

1. Institut yadernoy fiziki AN KazSSR.

L 22175-65 EWT(1)/EWT(m)/T/EED(b)-3 Pae-2 SSD(a)/SSD(c)/AEDC(a)/AS(mp)-2/  
DIAAP/IJP(c)

ACCESSION NR: AP5001824

S/0056/64/047/006/2051/2054

AUTHORS: Anzon, Z. V.; Vinitskiy, A. Kh.; Takibayev, Zh. S.;  
Chasnikov, I. Ya.; Shakhova, Ts. I. B

TITLE: Investigation of ionization losses of relativistic particles in nuclear photoemulsions 19

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47,  
no. 6, 1964, 2051-2054

TOPIC TAGS: nuclear emulsion, ionization, relativistic particle,  
proton interaction, relativistic particle

ABSTRACT: The purpose of the work was to study the dependence of the ionization characteristic (blob density) on the particle energy (in rest-mass units). To this end, the authors carried out special measurements of the relative ionization in tracks of protons of energy 2, 3, 4 and 5 BeV and pions of 3.8 BeV energy, in stacks of

Card 1/3

L 22175-65

ACCESSION NR: AP5001824

4

NIKFI-R emulsions irradiated at the Joint Institute of Nuclear Research. The stacks were irradiated practically simultaneously in a 9 BeV proton beam, in a direction perpendicular to the emulsion plane. Results obtained from tracks of electron-positron pairs and delta rays in a stack of 600  $\mu$  Ilford G-5 emulsion irradiated by 17-BeV pions in the CERN accelerator are also presented. The ratio of the ionization on the plateau of the ionization curve to the value at the minimum coincides for the different emulsions within the limits of experimental error. The average value of this ratio is  $1.104 \pm 0.010$ . The observed ionization-momentum dependence agrees with the curve calculated on the basis of the Sternheimer equation (Phys. Rev. v. 88, 851, 1952; 89, 1148, 1953; 91, 256, 1953; 103, 511, 1956), with parameters  $I = 270$  eV and  $T_0 = 2$  keV ( $I$  -- ionization potential,  $T_0$  -- cutoff energy). "The authors thank Professor V. I. Veksler and S. I. Lyubomilov for collaboration in the irradiation of the emulsions at OIYaI, and Professor W. O. Lock for supplying the emulsions irradiated at CERN, as well

Card 2/3



L 22175-65

ACCESSION NR: AP5001824

as G. B. Zhdanov and M. I. Trot'yakova of FIAN for a discussion on this question." Orig. art. has: 2 figures.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR (Institute of Nuclear Physics, Academy of Sciences Kazakh SSR)

SUBMITTED: 12May64

ENCL: 00

SUB CODE: NP

NR REF SOV: 006

OTHER: 003

Card 3/3

L 8133-66 EWT(d)/EWP(k)/EWP(h)/EWP(v)/EWP(1)

ACC NR: AP5025062

SOURCE CODE: UR/0286/65/000/015/0107/0107

AUTHORS: Vinitkiy, A. M.; Levchinskiy, A. Ya.

ORG: none

TITLE: Multichannel programmed temperature regulator. Class 42, No. 174015

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 107

TOPIC TAGS: temperature regulator, automatic temperature control

ABSTRACT: This Author Certificate presents a multichannel programmed temperature regulator containing temperature detectors located in the regulated objects and connected through a commutator to a regulating bridge circuit. A programmed temperature controller with a motor serves as one arm of the bridge. The regulator also contains a commutator motor and a bridge unbalance signal amplifier controlling by means of an intermediate relay and commutator the slave mechanisms varying the temperature of the objects. To regulate the temperature of objects whose program shifts with time, the programmed controller motor is connected through an amplifier to the output of a master bridge (see Fig. 1). One arm of the bridge is a regulation time setting unit with series connected time shift controllers for the regulation program

Card 1/2

UDC: 536.5.002.56:62-503.52

L 8133-66

ACC NR: AP5025062

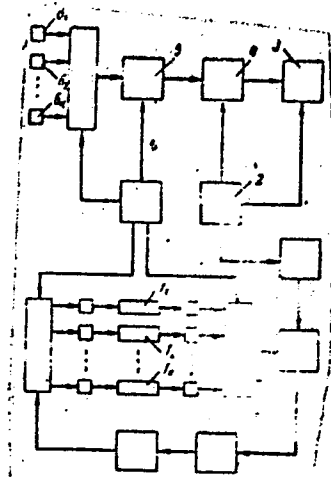


Fig. 1.  $1_1, 1_2, \dots, 1_k$  - regulated objects (k pieces);  
2- programmed controller  
motor; 3- amplifier;  
4- master bridge; 5- reg-  
ulation time setting unit;  
 $6_1, 6_2, \dots, 6_k$ - regulation  
time shift controllers

of the corresponding object. Orig. art. has: 1 diagram.

SUB CODE: EC, TD/ SUBM DATE: 22Apr63

jw

Card 2/2

VINITSKIY, A.M., kand.tekhn.nauk ; FIGOTIN, L.I., inzh.

Automatic programmed temperature control in autoclaves. Mekh.i  
avtom.proizv. 17 no.1:14-15 Ja '63. (MIRA 16:2)  
(Thermostat)

VINITSKIY, A.M., kand.tekhn.nauk

Electromechanical load controller for construction cranes.  
Stroi.i dor.mash. 6 no.4:10-12 Ap '61. (MIRA 14:3)  
(Cranes, derricks, etc.—Safety appliances)

VINITSKIY, A.M., kand.tekhn.nauk

Automatic tilting of slag conveying buckets. Prom stroi. 37 no.5:  
51-52 My '59. (MIRA 12:7)  
(Automatic control) (Slag)

VINITSKIY, A.M., kand.tekhn.nauk; CHARKIN, A.I., inzh.

Electromechanical lifting-capacity controller for heavy tower  
cranes. Mont. i spets. rab. v stroi. 24 no.8:20-22 Ag '62.  
(MIRA 15:8)

1. Yuzhnyy nauchno-issledovatel'skiy institut po stroitel'stvu  
Akademii stroitel'stva i arkhitektury UkrSSR.  
(Cranes, derricks, etc.)

VINITSKIY, A.M.

Automatic load-capacity limiter with an adjusting device  
for construction cranes. Priboestroenie no.4:23-25 Ap '59.  
(MIRA 12:5)  
(Cranes, derricks, etc.--Safety measures)  
(Electronic control)



VINITSKIY, A.M., kand. tekhn. nauk

Automatic control of water consumption in the IUzhNII-2 air-entraining  
machine for treating slag. Prom. stroi. 36 no.12:29-31 D '58.  
(MIRA 12:1)

(Slag)

14(2), 14(8)

AUTHOR:

Vinitskiy, A. M., Candidate of  
Technical Sciences

SOV/119-59-4-12/18

TITLE:

Automatic Load Limiter With Correcting Device Designed  
for Construction Cranes (Avtomaticheskii ogranicitel'  
gruzopod'yemnosti stroitel'nykh kranov s korrektyrnykh  
ustroystvom)

PERIODICAL: Priborostroyeniye, 1959, Nr 4, pp 23-25 (USSR)

ABSTRACT:

Several accidents have occurred in the operation of tower cranes because insufficient attention has been paid to safety regulations. The Nauchno-issledovatel'skiy institut stroitel'nogo i dorozhnogo mashinostroyeniya VNIISTroydormash (Scientific Research Institute of Building and Road Building Machinery) ascertained the causes of these accidents. It became evident that 80 % of the accidents were caused by overloading. Damages to tower cranes, the lifting capacity of which decreases with increasing radius, proved to be of particular interest. If the lifting capacity is limited by electrical methods there arises the possibility of developing reliable automatic devices for the protection of cranes against undue wearout or accidents. The collaborators of the

Card 1/2

Automatic Load Limiter With Correcting Device Designed SOV/119-59-4-12/18  
for Construction Cranes

"Proyektstroy mekhanizatsiya" in 1956 developed a load limiter, which incorporates a three-coil maximum relay. According to the opinion of the designers it is possible to limit the load to be lifted by limiting the torque of the electric motor. Modern Engineering provides ways and means for the construction of an automatic load-limiting device, which also eliminates short-time overloading. Such an apparatus which can be used with any type of construction crane has been developed in the laboratory of automation of the Yuzhnyy nauchno-issledovatel'skiy institut promyshlennogo stroitel'stva (YuZhNII) (South Scientific Research Institute of Industrial Construction); its numerous advantages are listed. In two figures, the block scheme and the principal circuit diagram of this apparatus are given. A potentiometer is used as primary control element. The technical data of the elements of the electric circuit are compiled in a table. This instrument is protected against moisture, dust and temperature variations. It can be installed in the operator's cabin. Finally the calibration of this device is briefly described. There are 5 figures, 1 table and 3 Soviet references.

Card 2/2

VINITSKIY, A.M., kand.tekhn.nauk; FIGOTIN, L.I., inzh.; BAKHVALOVA, L.B.,  
inzh.

Automation of autoclave processing of building elements  
using a programmed temperature regulator. Stroi.mat. 8  
no.7:23-25 J1 '62. (MIRA 15:8)  
(Autoclaves) (Automatic control) (Temperature regulators)

~~VIKENTIN, Sergey Aleksandrovich; VIKITSKIY, Andrey Mikhaylovich; GOROKHOV,~~  
Mikhail Semenovich; ~~FEDOTOV, Ivan Dmitriyevich; STANYUKOVICH,~~  
Kirill Petrovich, doktor tekhnicheskikh nauk, prof., red.;  
~~SEREBRYAKOV, M.Ye., doktor tekhn.nauk, prof., retsenzent; ORLOV, B.V.,~~  
prof., doktor tekhn.nauk, retsenzent; ~~TOLOCHKOV, A.A., doktor tekhn.~~  
nauk, prof., retsenzent; ~~MALYSHEV, M.V., inzhener, red.;~~  
~~BOGOMOLOVA, M.F., izd.red.; ZUDAKIN, I.M., tekhn.red.~~

[Gas dynamic principles of interior ballistics] Gazodinamicheskie  
osnovy vnutrenney ballistiki. Pod obshchey red.K.P.Staniukovicha.  
Moskva, Gos.izd-vo obor.promyshl., 1957. 384 p. (MIRA 10:12)  
(Ballistics, Interior)

VINITSKIY, A.M., kand.tekhn.nauk; VOLOSHINOV, S.D., inzh.

The automatic regulation of pressure in cementation. Mekh.stroi.  
14 no.9:18-19 S '57. (MIRA 10:11)  
(Cement) (Automatic control)

100-9-6/11

AUTHORS: Vinit'skiy, A.M., Candidate of Technical Sciences  
and Voloshinov, S.D., Engineer.

TITLE: Automatic Regulation of Pressure in Cement Grouting  
Operations (Avtomaticheskoye regulirovaniye davleniya  
pri proizvodstve tsementatsionnykh rabot)

PERIODICAL: Mekhanizatsiya Stroitel'stva, 1957, No. 9,  
pp. 18 - 19 (USSR).

ABSTRACT: The Laboratory for Automation of the Scientific and  
Research Institute for Building Industry, YuZhNII, designed  
in collaboration with the Cementation Institute a system for  
pile cementation which has the following features: speed,  
accuracy and simplicity of manual setting to a pre-determined  
pressure; possibility to alter manually the pressure during  
the process; smoothness and continuity of the automatic regu-  
lation of pressure; the servo-motor on the valve can be dis-  
connected automatically; reliable operation during adverse  
weather conditions. Electrical automatic control of the  
pressure is applied. The pointer of a pressure gauge is joined  
with the spring loaded contact which slides along a wire  
resistance so that the movement of the pressure gauge pointer  
changes the point of contact on a potentiometer resistance.  
Card1/2 The basic circuit diagram of the control circuit is shown in

Automatic Regulation of Pressure in Cement Grouting Operations 100-9-6/11

Fig.3, p.19, and a photograph of it is reproduced in Fig.4, p.19. The drive is effected by a 0.27 kW, 3-phase asynchronous motor through a reductor gear which reduces the speed of the drive shaft to 8 r.p.m; the screw producing the pressure can be rotated in either direction. The highest sensitivity is achieved by feeding the equipment with a d.c. of 26 V and to maintain the voltage within the desired limits, a ferro-resonance stabiliser with a barretter tube is used. The pressure is maintained with an accuracy of  $\pm 1.5\%$  for variations of the supply voltage of  $\pm 20\%$ . The automatic controls are designed for many years' operation, but the barretter has to be replaced after each 2 000 hours. There are 4 figures.

AVAILABLE: Library of Congress  
Card 2/2

1. Construction-Equipment
2. Pressure-Control systems
3. Servo motors-Applications



VINITSKIY, A.M.

PHASE I BOOK EXPLOITATION

238

Betekhtin, Sergey Aleksandrovich; Vinitskiy, Andrey Mikhaylovich,  
Gorokhov, Mikhail Semnovich; Stanyukovich, Kirill Petrovich;  
Fedotov, Ivan Dmitriyevich.

Gazodinamicheskiye osnovy vnutrenney ballistiki (Gas Dynamic Principles  
of Interior Ballistics) Moscow, Oborongiz, 1957. 384 p. 4,500  
copies printed.

Gen. Ed.: Stanyukovich, Kirill Petrovich, Doctor of Technical  
Sciences, Professor; Reviewers: Serebryakov, M.Ye.,  
Doctor of Technical Sciences, Professor; Orlov, B.V.,  
Doctor of Technical Sciences, Professor; Tolochkov, A.A.,  
Doctor of Technical Sciences, Professor; Ed.: Malyshev, M.V.,  
Engineer; Ed. in charge: Sokolov, A.I.; Publishing Ed.:  
Bogomolova, M.F.; Tech. Ed.: Zudakin, I.M.

Card 1/10

Gas Dynamic Principles of Interior Ballistics (Cont.)

238

**PURPOSE:** This book was approved by the Ministry of Higher Education of the USSR as a manual for higher technical institutes. It can also serve as a textbook for university students of mechanics and mathematics, and for students of higher military institutes.

**COVERAGE:** This work contributes to the theory of internal ballistics by including chapters on wave processes occurring during a discharge. Principles of gas dynamics of transient processes are presented as a new element in the study of internal ballistics. The analytical solution of the Lagrange ballistic problem and the motion of a missile and of the gas-powder mixture in the case of true burning are discussed. These problems are also treated numerically. Simple and accurate solutions of problems in classical internal ballistics for relatively large projectiles are given by means of the generalized Drozdov method. One of the coauthors of this work, Betekhtin S.A., died in 1953, in the line of duty.

Card 2/10

Gas Dynamic Principles of Interior Ballistics (Cont.)

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Chapter VI was written by S.A. Betekhtin, Chapter III and IV by S.M. Vinit'skiy, Chapter II by S.M. Vinit'skiy and K.P. Stanyukovich; Chapter VIII was written by S.M. Gorokhov, Chapters I and V and the introduction by K.P. Stanyukovich and Chapter VII by I.D. Fedotov. There are 82 figures, 59 tables, and several references in footnotes.

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- 11. Formulation of the problem, assumptions, and construction of differential equations of motion 105

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BK/lsb

27 May 1958

VINITSKIY, A.M., kand.tekhn.nauk

Automation of steam curing in chambers. Bet. 1 zhel.-bet. 8  
no.3:97-102 Mr '62. (MIRA 15:3)  
(Reinforced concrete--Curing) (Automation)

VINITSKIY, A.M., kand. tekhn.nauk.

Adjusting device for load limiters for tower and other building  
cranes. Stroil. i dor. mashinostr 3 no.2:8-10 F '58. (MIRA 11:2)  
(Cranes, derricks, etc.)

															STANDARD AND PROPERTY INDEX															JAN 1950 COPY 1														
SA															B 64 C																													
<p>14. Calculation of the external induction of thin rectangular steel rails. A. M. VERTNER and L. A. GOLUBEN. Zhurnalovskaya, No. 1-2-3 (Aug., 1950).</p> <p>The calculation is based on the assumption of an infinite permeability of the steel, which permits treating the contour of the profile as a line of force. Also, mutual induction between several rails is neglected and the field on the surface of the rail thus regarded as completely uninfluenced from the outside.</p> <p>The problem may then be treated by conformal transformation of the part of the plane inside unit circle into part of the plane outside the contour of the conductor. The thickness of the rail may then be assumed as vanishing. The transforming function taken the form <math>w = \frac{1}{\lambda} [z + \sqrt{(z^2 - h^2)}]</math> and the influence of mutual induction of a system (<math>\beta</math>-ph.) of rails may be considered by inserting <math>d - A/2</math> for <math>x</math> and <math>d - m/2</math> for <math>y</math> in the resulting expression (where <math>d</math> is the space between rails, <math>A</math> the height and <math>m</math> the thickness of the rails). This results agree very well with experimental data.</p> <p style="text-align: right;">D. P. KRAUS</p>																																												
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VINITSKIY, A., Alma-Ata.

The first scientific-technical conference of the radio amateurs of Alma-  
Ata. Radio no.7:23 J1 '53. (MLRA 6:7)

(Alma-Ata--Radio--Congresses)

VISHNYAKOV, D.Ya., doktor tekhn.nauk, prof.; VINITSKIY, A.G., kand.tekhn.nauk

Effect of structure on the wear-resistance of iron-chromium-  
carbon alloys. Trudy MATI no.31:50-64 '58. (MIRA 11:7)  
(Iron-chromium-carbon alloys--Metallography)  
(Mechanical wear)

137-1957-12-25055 D

VINITSKIY, A.G.

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 303 (USSR)

AUTHOR: Vinitskiy, A. G.

TITLE: The Influence of the Structure of Alloys on Resistance to Abrasion  
(Vliyaniye struktury splavov na ustoychivost' pri istiranii)

ABSTRACT: Author's dissertation for the degree of Candidate of Technical Sciences, presented to the Mosk. aviats. tekhnol. in-t. (Moscow Institute on Aviation Technology), Moscow, 1957.  
A study of the influence of the amount, shape, and size of Fe, Cr, W, and V carbides (C) on the wear resistance (WR) of annealed carbon steels: 20, 35, U7, and UI2, containing lamellar and granular pearlite, and on the wear resistance of certain cast alloys in both annealed and tempered states. A method was developed for accelerated laboratory tests, permitting a comparative evaluation of the WR of materials, such as in the case of the open links of a caterpillar track; the method provides for a continuously changing specific pressure upon the friction surface during tests (in the 180-30 kg/cm<sup>2</sup> range) on the universal Amsler machine. It is established that the WR, under conditions of both dry sliding friction and friction with an abrasive, is determined primarily by the total amount of C's present, by their size.

Card 1/3



137-1957-12-25055 D

The Influence of the Structure of Alloys (cont.)

shape, and by the nature of their distribution. The type of C's present does not exert a dominating influence on the WR. Increasing the number of C's present increases the WR, providing the dimensions of the C's do not exceed a critical value. Lamellar and shell-shaped C's, all other conditions being equal, favor a greater increase in WR than spheroidized C's. Tempering increases the WR, which is determined by the condition of the C's, as well as by the composition, the structure, and the properties of the metallic background. Structurally free ferrite, when present in the structure of annealed and tempered steels, reduces the WR drastically. The wear of alloys investigated, as a function of various factors, conformed to the same rule in the majority of cases, both under dry sliding friction and in tests in the presence of abrasives. In the latter instance the wear is greater, and the effect of harmful factors is more pronounced. The predominant process in the mechanism of wear under dry sliding friction, under the testing conditions employed, is the formation of macro- and microscopic seizure nodes and their cutting action into the friction surface of either body. In the case of sliding in the presence of an abrasive, the predominant factor in the process of wear is the cutting action of a multitude of abrasive particles.

T. M.

Card 2/3

137-1957-12-25055 D

The Influence of the Structure of Alloys (cont.)

ASSOCIATION: Mosk. aviats. tekhnol. in-t (Moscow Institute on Aviation Technology), Moscow.

1. Abrasion resistant alloys-Test results
2. Abrasion resistant alloys-Structural analysis

Card 3/3

Vinit'skiy, A.G.

USSR/Phase Transformation in Solid Bodies

E-6

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11727

Author : Kontorovich, I.Ye., Vinit'skiy, A.G.

Inst : -

Title : Effect of Electric Heating on the Phase Transformations  
in Carbon and Chrome Steels.

Orig Pub : Metallovedeniye i obrabotka metallov, 1955, No 2, 21-25

Abstract : No abstract.

Card 1/1

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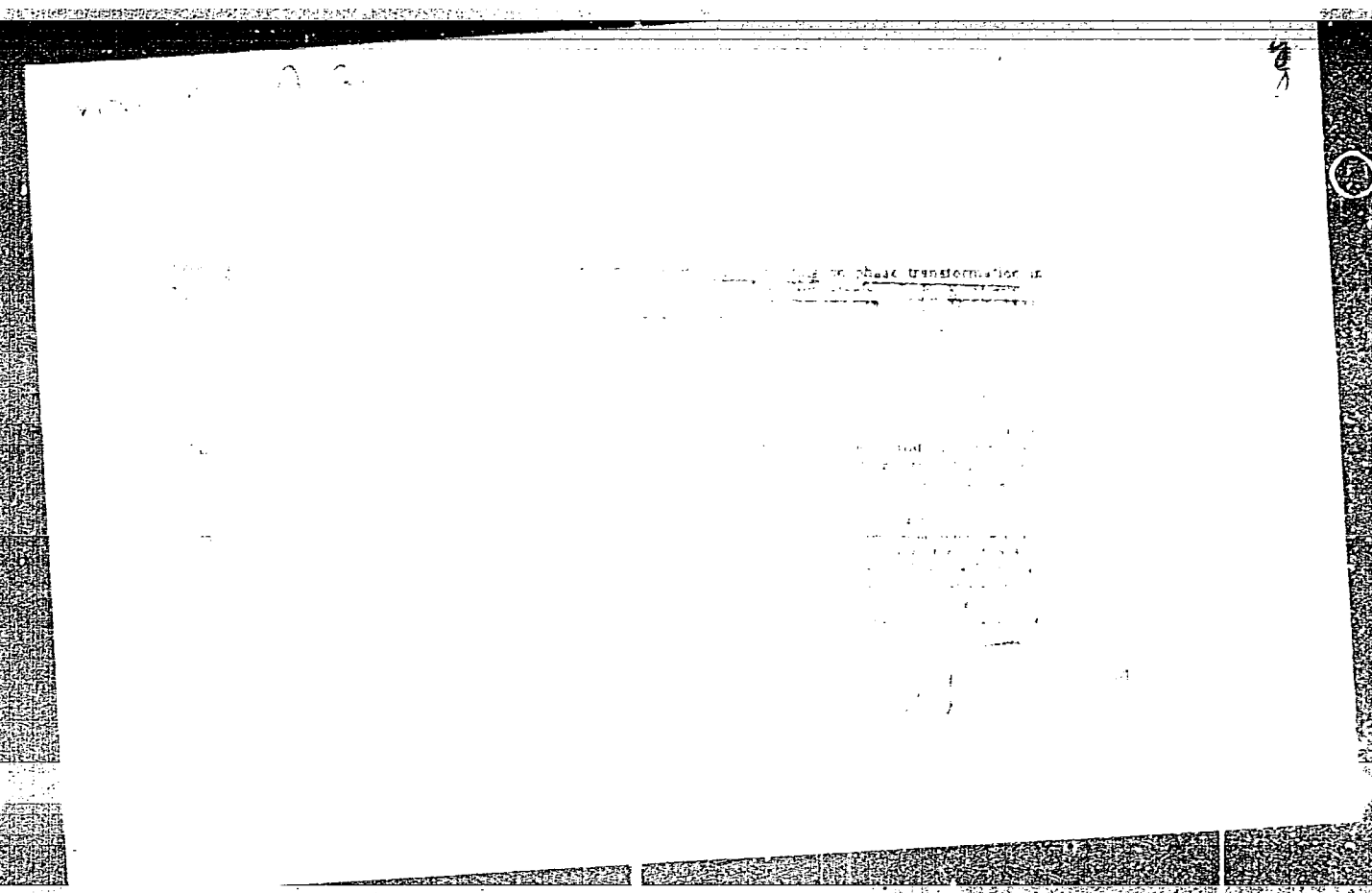
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VINITSKIY, A.G.

KONTOROVICH, I.Ye., professor, doktor tekhnicheskikh nauk; VINITSKIY, A.G.,  
inshener.

Effect of electric heating on phase transformations of carbon and  
chromium steels. Trudy MATI no.30:174-186 '56. (MLBA 10:2)  
(Steel--Heat treatment)

AUTHOR:

Vishayakov, D.Ya, Dr. of Technical Sciences, Professor, and  
Vinititskiy, A.G., Engineer. 129-4-1/17

TITLE:

Wear resistance of carbon and high chromium steels. (Isnosostoykost' uglevodistykh i vysokokhromistykh staley.)

PERIODICAL:

"Metallovedenie i Obrabotka Metalloy" (Metallurgy and Metal Treatment), 1957, No. 4, pp. 2 - 9 (U.S.S.R.)

ABSTRACT:

Certain problems of the dependence of the wear resistance of annealed carbon and high chromium steels on their structure were studied. The chemical composition, hardness and the initial structure of the investigated carbon steels are given in Table 1, p.2; the chemical compositions of the investigated chromium steels are given in Table 2, p.3 and their mechanical characteristics are given in Table 4, p.5. The compositions of the Fe-Cr-C alloys were selected in such a way that various quantities of a given type of carbide were obtained for an equal degree of alloying. Dry friction tests as well as friction tests with an abrasive intermediate layer were carried out on an Amsler-type machine, using a method applicable for open hinges of a track chain. The top specimens, 10 x 10 x 16 mm, were made of the investigated material, whilst the rolls were made of a Cr-Si steel (1.30 to 1.60% Cr and 1.00 to 1.30% Si) hardened and tempered to a hardness of  $R_C = 45$  to 48. The diameter of the roll was 36 mm and its

Card 1/2



Card 2/2

Wear resistance of carbon and high chromium steels. (Cont.)  
129-4-1/17

speed 200 r.p.m. The wear was produced by vertical oscillatory movement of the top specimen with a continuous variation of the specific pressure on the friction surface. In tests with an abrasive intermediate layer the wear intensity was 3 to 9 times as high as the wear in the case of dry sliding friction and depends on the composition and the structure of the steel. Increase of the quantity of the carbides in carbon and high chromium steels brings about an increase in their wear resistance and this applies to the tests with an abrasive intermediate layer and also, in the case of dry friction, for all the structures investigated in the experiments. The influence of the quantity of carbides on the wear resistance of high chromium steels in the case of tests with an abrasive intermediate layer are considerably lower than in the case of dry sliding friction; for an equal quantity of carbide and an equal structure of the steel a higher wear resistance was observed for cubic chromium carbide than for steel containing trigonal carbide. In the case of dry sliding friction rubbing pairs consisting of a high chromium alloy with a Cr-Si steel of the above mentioned composition has a higher wear resistance than carbon steel rubbing pairs. 7 figures, including graphs and micro-photos. 4 tables. 5 references, all of which are ~~Slavonic~~

ASSOCIATION: Moscow Aviation Technological Institute (Moskovskiy Aviatsionnyy Tekhnologicheskii Institut)

VINITSKIY. AG.

**AUTHORS:** Vishnyakov, D. Ya., and Vinitskiy, A. G.

**TITLE:** Procedure of Laboratory Testing for Abrasion Wear (Metodika laboratornogo ispytaniya splavov na abrazivnyy iznos)

**PERIODICAL:** Zavodskaya Laboratoriya, 1957, Vol. 23, No. 1, pp. 78-83 (U.S.S.R.)

**ABSTRACT:**

The article deals with the testing of materials used for making caterpillar treads with a view to improving their wearing properties. The authors have developed an accelerated method of testing to take the place of the old method, which simulated conditions of actual use. The method of the authors tests wearing under friction either with or without abrasive on the friction machine of Amsler's system. The drawings 1, 2 and 3 show the principles of the device used. The graphs 4 and 5 represent the lines of wearing for 7 different materials. These show the dependence of the amount of wear on the total path of friction when experimenting with an abrasive. Figure 6 shows the wear on the top block. Graph 8 shows comparative wear of different kinds of steel. Graph 9 shows comparative wear for articulated joints of caterpillar treads. Graph 10 compares data of laboratory and stand tests. The table compares the wear of rollers and other elements made of different materials. There are 3 Slavic references.

Card 1/2

Procedure of Laboratory Testing for Abrasion  
Wear

ASSOCIATION: Moscow Aviation Technological Institute (Moskovskiy aviatsionnyy  
tekhnologicheskii institut)

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Card 2/2

VINITSKIY, A-G

1614\* Effect of Electrical Heating on Phase Transformations in Carbon and Chromium Steels. Vliianie elektrosnaga na fazovye prevrashcheniya v uglerodistei i khromistei stalakh. (Russian.) I. E. Kontorovich and A. G. Vinitskii. Metallovedeniye i obrabotka metallov, 1955, no. 2, Aug., p. 21-25. Effect of rate of heating on transformation temperature and resulting pearlitic and sorbitic structures; effect of temperature and rate of electrical heating on transformation time; change of hardness and electrical resistivity in relation to temperature and rate of heating; effect of Cr in C steel on transformation temperature and time. Graphs, tables. 2 ref.

of 1

VINITSKIY, A. G.

The article, "Method of Laboratory Testing of Alloys For Abrasive Wear," by D. Ya. Vishnyakov and A. G. Vinitskiy, Moscow Aviation Technological Institute, describes abrasive-wear tests conducted with the Amsler apparatus on various types of alloyed steels.

It was found that the method permits a rapid estimate of the resistance to wear of a large quantity of material and may be recommended for comparative rating of the resistance to wear of materials to be used as exposed joints of caterpillar mechanisms. (Zavodskaya Laboratoriya, No 1, Jan 57, pp 78-83) (U)

Sum 1324

VINITSKIY, A.G. —

"Wear-Resistance of Carbon and High-Chromium Steels," by Prof D. Ya. Vishnyakov, Doctor of Technical Sciences, and Engr A. G. Vinitskiy, Moscow Aviation Technological Institute, Mekhallovedeniye i Obrabotka Metallov, No 4, Apr 57, pp 2-9

In the article, the authors consider certain problems of the resistance to wear of tempered carbon and high-chromium steels in relation to their structures. The experimental part of the work was conducted in the laboratories of a branch of the Ministry of Transport Machine Building.

The structure and property of the chrome alloys were studied by a complex method with the utilization of chemical, metallographic, X-ray, magnetic, and resistance analyses. For finding the mechanical characteristics, methods of determining the hardness and tests for bending, compression, and wear were applied. In addition to this, chemical, X-ray, and magnetic analyses of carbide residues precipitated from the alloys were carried out.

Testing for wear was carried out on a universal friction machine according to a specially developed method applicable to the operation of the open links of a caterpillar tread. Dry sliding friction as well as sliding friction with abrasive layers was studied.

64M-1374

VINITOLY, A.C.

The article reports that in testing with the abrasive layers, the intensity of wear is 3-9 times greater than by dry sliding friction, and depends on the composition and structure of the steel.

Increasing the quantity of the carbides in the carbon and high-chromium steels raises their resistance to wear. This rule became evident for the studied structures both in tests with abrasive layers as well as in dry sliding friction tests.

The degree of the effect of the quantity of carbides on the wear resistance of high-chromium steels was found to be considerably lower in tests with abrasive layers than in dry friction sliding tests.

With the same quantity of carbides and an identical structure of the steel with cubic chromium carbides, within certain limits, a resistance to wear appears which is higher than in steel with trigonal carbides.

In the case of dry sliding friction tests of high-chromium alloys from 37KhS steel, higher resistance to wear is evident than in compounds with carbon steels.

Graphs, tables, and photomicrographs supporting the results of the studies appear in the article. (U)

84M. 1377

VINITSKIY, A.Kh.; GOLYAK, I.G.; RUS'KIN, V.I.; TAKIBAYEV, Zh.S.

Interactions between 7.5 Bev. mesons and nucleons and their  
analysis from the standpoint of pole diagrams. Zhur. eksp.  
i teor. fiz. 44 no.2:424-430 F '63. (MIRA 16:7)

1. Institut yadernoy fiziki AN Kazakhskoy SSR.



S/056/63/044/002/006/065  
B102/B186

AUTHORS: Vinitakiy, A. Kh., Golyak, I. G., Rus'kin, V. I.,  
Takibayev, Zh. S.

TITLE: Interaction between 7.5-Bev  $\pi^-$  mesons and nucleons, and  
their analysis on the basis of pole graphs

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,  
no. 2, 1963, 424-430

TEXT: Emulsion plates were exposed to the pion beam from the proton-synchrotron of the OIYaI, and from the 2100  $\pi N$  events recorded 200 elastic interactions were selected and analyzed. Among these there were 48, 56, 45, 29, 11, 10 and 1 events of 2, 3, 4, 5, 6, 7, and 8-pronged stars, respectively. A total of 323 particles were identified, 250 pions, 19 K-mesons and 45 protons. The pion and proton angular and momentum distributions were determined for the c.m.s. The pion angular distribution is asymmetric with a forward peak and the asymmetry decreases with increasing multiplicity. The proton angular distribution has a backward peak, but the asymmetry is independent of the multiplicity. The proton  
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S/056/63/044/002/006/065  
B102/B186

Interaction between 7.5-Bev ...

momentum distribution has two maxima at 0.4-0.6 Bev/c and at 1.4-1.6 Bev/c. The pions have flat maxima at 0.2-0.4 and 0.6-0.8 Bev/c. The experimental results are analyzed from the standpoint of peripheral interaction applying the Feynman graphs for one-, two- and three-pion systems. The peculiarities observed can be explained by the fact that at least 30 of the stars have only few prongs. The angular correlation between two pions in the case of low multiplicity are also discussed. There are 6 figures and 2 tables.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR  
(Institute of Nuclear Physics of the Academy of Sciences  
Kazakhskaya SSR)

SUBMITTED: July 28, 1962

Card 2/2

RUS'KIN, V.I., kand. fiziko-matem. nauk; VINITSKIY, A.Kh., mladshiy  
nauchnyy sotrudnik

Inelastic  $\pi^-$ -meson-nucleon interactions at an energy of 7.5  
Bev. Vest. AN Kazakh. SSR 19 no.4:58-64 Ap '63. (MIRA 16:5)

(Nuclear reactions)

**AUTHOR:** Vinit'skiy, A.S., Member of the Association 07/08-13-7-1/14

**TITLE:** On the Volume of a Signal Acting Upon a Filter With Variable Parameters (Ob ob'yeme signala, vozdeystvuyushchego na fil'tr s peremennymi parametrami)

**PERIODICAL:** Radiotekhnika, 1958, Vol. 13, Nr 7, pp. 3-10 (USSR)

**ABSTRACT:** On the basis of a simple concrete example it is first shown that the representation of the channel signal and capacity generally in use does not apply if selective devices with variable parameters in the channel are used. The source of the difficulties arising in this connection is the fact that the special Khill (Hill) functions cannot be decomposed and that the sine curve is recorded as a complex signal which, in the general case, passes through a system with distortions (Ref 4). Besides, the resonance for a harmonic component of the complex signal can in such systems be disturbed by the action of another harmonic component of different frequency (Ref 5). In a previous work (Ref 3) by the same author one of the methods of solving this problem was described in detail. This method for the development of generalized signal- and channel measurements is based upon the reduction (conversion) of

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.. On the Volume of a Signal Acting Upon a Filter  
With Variable Parameters

SOV/108-13-7-1/14

the time- and amplitude scale to the selective part of the connecting channel. The basic results obtained by this work (Ref 3) in so far as they are in any relation to the problem dealt with in the present case are dealt with. It is shown that the usual system of generalized measurements is reduced to the degenerated case of the system suggested. This case occurs if the parameters of the selective part of the system are constant. In cases in which the selective part of the transmitting channel has no circuits with variable parameters the reduced time degenerates to absolute time, and the reduced parameters are reduced to the usual type. Professor S.M.Rytov revised the manuscript of this paper. There are 2 figures, and 13 references, 11 of which are Soviet.

SUBMITTED: October 14, 1957 (initially) and February 24, 1958 (after revision)

ASSOCIATION: Vsesoyuznoye nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (All-Union Scientific-technical Association for Radio Engineering and Electrical Communications im. A.S. Popov)

Card 2/2

1. Radio signals--Analysis

VINITSKIY, Arkadiy Sayvich; SMIRENIN, B.A., retsenzent; IVANUSHKO, N.D.,  
red.; SMUROV, B.V., tekhn. red.

[Fundamentals of continuous-wave radar] Ocherk osnov radiolo-  
katsii pri nepreryvnom izluchenii radiovoln. Moskva, Izd-vo  
"Sovetskoe radio," 1961. 494 p. (MIRA 15:2)  
(Radar)

VINITSKIY, A. S.

A. S. Vinitskiy, "Experimental confirmation of the possibility of self-symphasing a following filter." Scientific Session Devoted to "Radio Day", May 1958, Truarezervizdat, Moscow, 9 Sep 58.

Two possible regions of following filters with automatic tuning are analyzed: with preliminary adjustment and with random initial detuning. Certain theoretical hypotheses are presented on the possibilities of self-symphasing the following filter.

A characteristic installation is given for the experimental confirmation of the possibilities of self-symphasing and the basic experimental results are presented.

VINITSKIY, A. S.

A. S. Vinitskiy, "On the volume of a signal acting on a filter with variable parameter." Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep 58.

It is shown that the width of the harmonic signal spectrum and the frequency pass-band cannot be used as generalized measurements of the signal and transmission channel in analyzing filters with variable parameters. How to obtain "reduced" generalized measurements of the signal and channel for filters with variable parameters on the basis of a representation of time, frequency and amplitude scales referred to the filter is analyzed.

An FM radio altimeter with a following filter is selected as an illustration.



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PHASE I BOOK EXPLOITATION

SOV/5930

Vinitskiy, Arkadiy Savvich

Ocherk osnov radiolokatsii pri nepreryvnom izluchenii radiovoln  
(Outline of Radar Principles With Continuous Radiation) Moscow,  
Izd-vo "Sovetskoye radio", 1961. 494 p. Errata slip inserted.  
13,000 copies printed.

Ed.: N. D. Ivanushko; Tech. Ed.: B. V. Smurov.

**PURPOSE:** This book is intended for engineers, technicians, and students concerned with radar problems.

**COVERAGE:** A brief outline is given of the physical principles of radar stations with continuous radiation. The book makes no attempt to cover all the problems related to modern radar. Only phenomena essential for the operation of Doppler and f-m radar stations are analyzed. The author thanks B. A. Smirenin and P. M. Vinitskaya for their assistance. There are 114 references: 88 Soviet (including 13 translations), 21 English, 1 German,

Card 1/1

VINITSKIY, A.S.

Volume of signals acting upon filters with variable parameters.  
Radiotekhnika 13 no. 7:3-10 J1 '58. (MIRA 11:7)

1. Deystvitel'nyy chlen Vsesoyuznogo nauchno-tekhnicheskogo  
obshchestva radiotekhniki i elektrosvyazi im. A.S.Popova.  
(Information theory)

Cand Tech Sci

VINITSKIY, A. S.

Dissertation: "Modulated Resonators."

12/5/50

Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov

**80 Vecheryaya Moskva**  
**Sum 71**